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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,077	03/28/2001	Masakazu Hoashi	MAT-8117US	4032

7590 11/19/2002

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EXAMINER

LE, HOANGANH T

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/820,077

Applicant(s)
HOASHI et al

Examiner
HOANGANH LE

Art Unit
2821



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 25, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☒ Claim(s) 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

DETAILED ACTION

1. The amendment filed on September 25, 2002 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 9, the limitation "a size of said first antenna element is different from a size of said second antenna element" find no support in the specification. .

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-14, what is meant by "isolated"? Is it meant that the antenna is not connected to the ground?

In claims 3 and 4, the recitation "elements of said grounded antenna and said ungrounded antenna are symmetrical" is unclear. How symmetrical?

In claim 6, "said grounded antenna" has no antecedent basis.

In claim 9, the recitation "wherein at least one of said first conductor section and said second section is isolated from said ground plane". Figures 11 and 12 show a conductor section (1004, 1240) being connected to the ground plane (1008, 1280) This means that the antenna elements are grounded.

In claims 13, and 14, "a ground" is the same with "the ground plane" of claim 9?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being

examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (the US Patent No. 6,337,670).

The Chen reference teaches in figure 1 a diversity wireless device for providing diversity using a plurality of ungrounded antennas 20,30,40,50 wherein a ground 29,39,49,59 is placed in proximity to at least one of the ungrounded antennas and the at least one of the ungrounded antenna is isolated from the ground plane (figures 2 and 3). The ground is composed of a plurality of laminated layers and is placed so as to partly surround the ungrounded antenna three dimensionally (figure 1). Figure 1 shows elements of the ungrounded antenna being symmetrical and an angle between the antenna being 90 degrees.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKivergan (the US patent No. 6,339,402) in view of Liu (the US Patent No. 6,222,496).

The McKivergan reference teaches in figure 2 a wireless terminal unit having first and second antenna elements, each antenna element including: a substrate 12 ; a first conductor section 24,44 substantially in parallel to the substrate 12; and a second conductor section 36,46 , wherein a size of the first antenna element is different from a size of the second antenna element (figure 2) and wherein at least one 24,44 of the first conductor section and the second conductor is "isolated" from the ground plane. McKivergan does not teach the second section successively formed from the first conductor section and angularly arranged relative to the substrate.

The Liu reference teaches in figure 2 an antenna comprising a first conductor section 210 and a second conductor section 230 successively formed from the first conductor section and angularly arranged relative to the substrate. The first conductor section has a feed terminal; and the second conductor section is structured so as to be inclined in the direction away from the feed terminal, the inclination being such that the space between the second conductor section and the substrate reduces in the direction away from the feed terminal (figure 2) in order to reduce the overall dimension of the antenna (see abstract).

Since one of ordinary skill in the art would recognize the benefit of reducing the dimension of the antenna, it would have been obvious to provide Mckivergan with antenna elements having the second section successively formed from the first conductor section and angularly arranged relative to the substrate as taught by Liu.

10. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKivergan in view of Liu as applied to claims 9-11 and 13 above, and further in view of Muramoto et al (the US patent No. 6,326,924).

The Mckivergan and Liu teach every feature of the claimed invention, excluding a switch for connecting to an external antenna.

The Muramoto et al reference teaches in figures 10 two internal antennas 3a,3b and an external antenna 2. Figure 5 shows a switch 5 for connecting to the external antenna 2 in order to improve the characteristics of the antenna.

Since one of ordinary skill in the art would recognize the benefit of improving the characteristics of the antenna, it would have been obvious to provide Mckivergan/Liu with a switch and an external antenna as taught by Muramoto et al.

Allowable Subject Matter

11. Claims 1-4 are allowed.

Response to Arguments

12. Applicant's arguments filed September 25, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that Chen does not disclose that the ungrounded antenna communicate with the ground plane via high-frequency wave, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Since Chen does show ungrounded antennas 20,30,40,50, a ground plane 29,39,49,59 being place in proximity to the antennas and the antennas being isolated from the ground plane (figures 2 and 3), the 102 rejection is proper.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §

706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Hoanganh Le whose telephone number is (703) 308-4921.

15. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

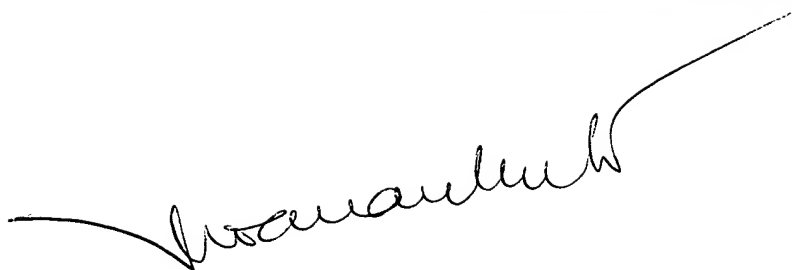
16. Papers related to Technology Center 2800 applications **only** may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 308-7722 or

Application Serial Number: 09/820,077
Office Action: 2

Art Unit: 2821
File Paper Number: 8

(703) 308-7724.

Hoanganh Le
Primary Examiner
Art Unit 2821
November 18, 2002

A handwritten signature in black ink, appearing to read 'Hoanganh Le', with a long, sweeping horizontal line extending to the right.

Hoanganh Le
Primary Examiner